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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/728,359	12/01/2000	David Helm	CM04662H	4118

22917 7590 03/26/2002

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SCHAUMBURG, IL 60196

EXAMINER

MEHRA, INDER P

ART UNIT	PAPER NUMBER
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2663

DATE MAILED: 03/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No. 09/728,359		Applicant(s) HELM ET AL.	
Examiner Mehra Inder		Art Unit 2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 December 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-14 and 17-22 is/are rejected.
- 7) ☒ Claim(s) 2,15 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____    | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 6-9, 12-13 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Haggerty et al** (US Patent No. 6,331,983), hereinafter Haggerty in view of **Deng et al** (US Patent No. 6,208,647), hereinafter Deng .

Regarding claims 1,13 and 22, Haggerty discloses, in reference to fig. 5, multi-cast communication involving multi-cast switches; a method comprising:

- announce information to other switches (sending from a sending host packets addressed to a multicast group), refer to col. 17 lines 17-22,col. 18 lines 24-26, and col. 32 lines 19-21;
- IGMP state machine to facilitate hosts join multicast group and reliable delivery setting a timer to ensure reliably join the multicast group (issuing, by a receiving host a join command the multicast group address) refer to col. 17 lines 22-24 and 39-42;
- reliable delivery setting a timer to ensure reliably join the multicast group (determining whether any packets are received by the receiving host with in a designated time period), col. 17 lines 22-24 and 39-42;

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- if a timer expires without any reports, there are no receivers for that group (if packets are not received by the receiving host within the designated time period, determining that the receiving host is not reliably joined to the multicast group), refer to col. 19 lines 29-51;

Haggerty does not disclose expressly if any packets are received within designated time period, determining that the receiving host is reliably joined to the multi-cast group address;

Deng discloses the receipt of a request to join a message is received from a host before the expiry of timer, the receiver is joined, otherwise it is removed from the multi-cast group, refer to step 720 in fig. 7 and col. 5 lines 58-65;

A person of ordinary skill in the art would have been motivated to employ Deng's switching mechanism coupled to interface controller into Haggerty's multi-cast switching system in order to ensure the receiver having reliably joined within specified time or leave with IGMP message. The suggestion/ motivation to do so would have been logical to have timer set to a value no less than the IGMP interval and monitor the arrival before the expiry of timer. It would have been obvious to a person of an ordinary skill in the art that the use of timer is an efficient and guaranteed technique to ensure the reliable join by receivers and use IGMP Leave message to leave multi-cast group.

Regarding claims 6 and 21, Haggerty discloses the method of claim 1, comprising:

- message sent to all routers group address in multi-cast router network communication (sending messages including the multi-cast group address), refer to col. 18 lines 21-36;

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Regarding claims 7 and 8, Haggerty discloses the method of claim 7 comprising:

- IGMP message to announce information (indicia) before joining a multi-cast group (sending indicia whether sourcing host is actively sourcing payload, recited in claim 7), refer to col. 17 lines 19-24;
- Announce “switch join group” announcement message 233, fig. 10 (issuing a join command), refer to col. 28 lines 45-64;

Regarding claim 12, Haggerty discloses reliable delivery of packets within designated time period, comprising:

- sets a timer (starting a timer having a predetermined expiration time), refer to col. 17 lines 39;
- waits for acknowledge from neighbors (determining whether packets are received by the receiving host before the expiration of time), refer to col. 17 line 40;

Regarding claim 9, Haggerty discloses, in reference to fig. 10, host can join a multi-cast group through IGMP protocol or reports (sending from the receive host, an IGMP join message to one or more local network devices), refer to col. 14 lines 28-30, col. 17 lines 22-23 and col. 18 lines 51-52;

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3. Claims 3-5, 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Haggerty et al** (US Patent No. 6,331,983), hereinafter Haggerty in view of **Deng et al** (US Patent No. 6,208,647), hereinafter Deng and further in view of **Donahue et al** (US Patent No. 6,266,339), hereinafter Donahue.

Regarding claims 3-5 and 17- 20, Haggerty discloses video data in packet (video payload), refer to 100 fig. 5;

Haggerty and Deng do not disclose test packets and payload; audio payload, multimedia payload, and multiple test packets before sending payload;

Donahue discloses audio video multi-cast channel payload, col. 11 line 56 and col. 14 lines 48-51; and data payload of the multi-cast including IP address and test pattern (packets comprise sending multiple test packets before sending payload);

A person of ordinary skill in the art would have been motivated to employ Donahue's high bandwidth broadcasting system and Deng's switching mechanism coupled to interface controller into Haggerty's multi-cast switching system in order to have packets include audio/video payload and test packets. The suggestion/ motivation to do so would have been logical to have integrated data system. It would have been obvious to a person of an ordinary skill in the art that the use of audio/video data transmission system capable of multi-casting to large number of receivers via single channel.

4. Claims 10, 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Haggerty et al** (US Patent No. 6,331,983), hereinafter Haggerty in view of **Deng et al** (US

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Patent No. 6,208,647), hereinafter Deng and further in view of **Adelman et al** (US Patent No.6,006,259), hereinafter Adelman.

Regarding claims 10, 11 and 14, Haggerty discloses the method of claim 1 further comprising:

- announcement signal on leaving a group (leave command), refer to col. 21 lines 37-38;
- IGMP state machine to facilitate hosts join multicast group and reliable delivery setting a timer to ensure reliably join the multicast group (issuing, by a receiving host a join command the multicast group address) refer to col. 17 lines 22-24 and 39-42;
- reliable delivery setting a timer to ensure reliably join the multicast group (determining whether any packets are received by the receiving host with in a designated time period), col. 17 lines 22-24 and 39-42;
- if a timer expires without any reports, there are no receivers for that group (if packets are not received by the receiving host with in the designated time period, determining that the receiving host is not reliably joined to the multicast group), refer to col. 19 lines 29-51;

Haggert, further discloses IGMP leave message), recited in claim 11, for leaving multicast group; refer to col. 21 lines 35-38; and announces to all switches (sending an IGMP leave message to onr or more local network devices, refer to col. 21 lines 35-38;

Deng discloses the receipt of a request to join a message is received from a host before

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the expiry of timer, the receiver is joined, otherwise it is removed from the multi-cast group, refer to step 720 in fig. 7 and col. 5 lines 58-65. Deng also , further, discloses IGMP leave message , refer to col. 6 lines 4-9;

Haggerty and Deng do not disclose re-attempting to reliably join the multi-cast group address;

Adelman discloses cluster member/cluster client will try to join the cluster again (re-attempting to reliably join the multi-cast group address;

A person of ordinary skill in the art would have been motivated to employ Adelman's network clustering system and Deng's switching mechanism coupled to interface controller into Haggerty's multi-cast switching system in order to ensure the receiver having reliably joined within specified time or leave with IGMP message. The suggestion/ motivation to do so would have been logical to have timer set to a value no less than the IGMP interval and monitor the arrival before the expiry of timer. It would have been obvious to a person of an ordinary skill in the art that the use of timer is an efficient and guaranteed technique to ensure the reliable join by receivers and use IGMP Leave message to leave multi-cast group.

#### **Allowable Subject Matter**

5. Claims 2, 15 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.



### Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Okanou et al (US Patent no. 6,240,089) discloses method of multi-casting for mobile host used in any one of sub networks connected to one another.

- Adelman et al (US Patent no. 6,078,957) discloses TCP/IP load balancing and failover process in an internet protocol (IP) network clustering system.

7. Any enquiry concerning this communication should be directed to Inder Mehra whose telephone number is (703)305-1985. The examiner can be normally reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Chau Nguyen, can be reached on (703)308-5340.

8. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. or faxed to: (703)872-9314

For informal or draft communications, please, label "Proposed" or "Draft".

Hand delivered responses should be brought to:

Receptionist (Sixth Floor), Crystal Park 2, 2121 Crystal Drive  
Arlington, VA.

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Inder Mehra  
Inder Mehra

3/18/02

March 18, 2002

Ken Vachon